

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-10 (canceled).

Claim 11 (new): A buckling actuator comprising:

a substrate;

a movable member disposed above the substrate and shiftable in a predetermined shifting direction;

a stationary member which is disposed on the substrate and supports the movable member;

a supporting beam which is connected between the stationary member and the movable member in a buckling manner and supports the movable member at one of two switch positions selectively, the two switch positions being distant from each other in the shifting direction of the movable member; and

a switching device arranged to switch the position of the movable member;
wherein

at least one of a connecting section between the stationary member and the supporting beam, and a connecting section between the movable member and the supporting beam is provided with a rotatable supporter supporting the supporting beam in a rotatable manner about an axis line extending substantially perpendicular to the substrate.

Claim 12 (new): The buckling actuator according to Claim 11, wherein the rotatable supporter includes at least three arm portions extending in directions that are different from one another.

Claim 13 (new): The buckling actuator according to Claim 12, wherein said at least three arm portions of the rotatable supporter include three arm portions extending away from an end of the supporting beam so as to define a substantially T-shaped configuration.

Claim 14 (new): The buckling actuator according to Claim 12, wherein said at least three arm portions of the rotatable supporter extend away from an end of the supporting beam in a radial arrangement.

Claim 15 (new): The buckling actuator according to Claim 11, wherein each of the connecting section between the stationary member and the supporting beam and the connecting section between the movable member and the supporting beam is provided with the rotatable supporter, such that each end of the supporting beam is rotatably supported by the corresponding rotatable supporter.

Claim 16 (new): The buckling actuator according to Claim 11, wherein a midsection of the supporting beam in the longitudinal direction of the supporting beam is provided with a reinforcing portion having higher rigidity than other sections of the supporting beam.

Claim 17 (new): The buckling actuator according to Claim 16, wherein a cross-section of the reinforcing portion is at least twice as rigid as a cross-section of each end of the supporting beam.

Claim 18 (new): The buckling actuator according to Claim 11, wherein the switching device shifts the movable member by using an electrostatic force.

Claim 19 (new): The buckling actuator according to Claim 11, wherein the switching device shifts the movable member by using a magnetic force.

Claim 20 (new): The buckling actuator according to Claim 11, wherein the switching device shifts the movable member by using a piezoelectric force.

Claim 21 (new): The buckling actuator according to Claim 11, wherein the movable member, the stationary member, the supporting beam, the rotatable supporter, and the switching device are composed of a single-crystal silicon material.

Claim 22 (new): The buckling actuator according to Claim 11, wherein the movable member moves toward and away from an optical path provided above the substrate based on the switch positions such that the movable member defines an optical switching unit for switching the optical path, the movable member being maintained at a corresponding one of the switch positions with a resilient force of the supporting beam.

Claim 23 (new): The buckling actuator according to Claim 11, further comprising a plurality of stationary members and supporting beams, wherein four of the rotatable supporters are provided between respective ones of the stationary members and a corresponding one of the supporting beams.

Claim 24 (new): The buckling actuator according to Claim 23, wherein each of the four rotatable supporters includes three bendable arm portions defining connecting sections between the corresponding stationary member and the corresponding supporting beam.

Claim 25 (new): The buckling actuator according to Claim 24, wherein each set of the three bendable arm portions defines a substantially T-shape configuration and supports the corresponding supporting beam in a rotatable manner about an axis line.

Claim 26 (new): The buckling actuator according to Claim 24, wherein each set of the three bendable arm portions extend from an end of the corresponding supporting beam in directions that are different from one another.

Claim 27 (new): The buckling actuator according to Claim 24, wherein each set of the three bendable arm portions extend away from a center of rotation O at an end of the corresponding supporting beam in a radial arrangement.

Claim 28 (new): The buckling actuator according to Claim 24, wherein each set of the three bendable arm portions are arranged such that two arm portions extend linearly along a y-axis in opposite directions and a third arm portion extends linearly along an x-

axis in a direction that is substantially perpendicular to the shifting direction of the movable member.

Claim 29 (new): The buckling actuator according to Claim 11, wherein the three bendable arm portions are arranged such that two arm portions extend linearly along a y-axis in opposite directions and a third arm portion extends linearly along an x-axis in a direction that is substantially perpendicular to the shifting direction of the movable member.

Claim 30 (new): An optical switch device comprising the buckling actuator according to Claim 11.